



# MCD SERIES

ENERGY SAVING  
REFRIGERATED AIR  
DRYERS

265 through 6000 SCFM



# MCD SERIES ENERGY SAVING REFRIGERATED AIR DRYERS

## GET DRY AIR FOR LESS

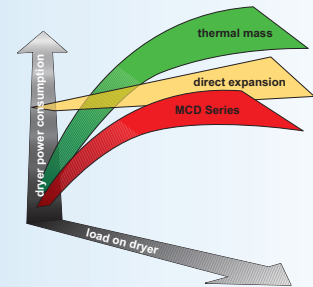
### DRY AIR. SAVE ENERGY

MCD Series energy saving refrigerated air dryers match energy consumption to actual plant air demands to save you energy and wring the moisture out of your compressed air. Reliable energy efficient design lowers your electric bill as it delivers dry air and great value in a compact space-saving package. Advanced temperature sensing technology cycles the compressor on-and-off to maximize energy savings and boost productivity from 265 through 6,000 scfm at pressures to 203 psi g.



### SENSIBLE CONTROLS

Refrigerators automatically cycle on-and-off to keep food cold while using the least amount of electricity. MCD Series uses the same approach - match energy use to your compressed air demands and save electricity as it keeps your air system dry. Why? Because, most air compressors operate under fluctuating air demands that vary due to work breaks, lunch and process demands. When you size the dryer properly to handle the 20° F - 30° F ambient temperature increase of summer heat you get less pressure drop, and generate tremendous energy saving opportunities the rest of the year.



## SAVING MAKES SENSE

Get an MCD Series energy saving refrigerated air dryer and get maximum value from every energy dollar you spend all year round. Featuring hot gas bypass refrigeration controls and cycling compressor technology, you also get oversized heat exchangers with <2 psi pressure drop, quiet compliant scroll compressors, environmentally friendly R407C refrigerant, and a direct exchange concept which avoids the increased power consumption of thermal mass type dryers.

Sensing technology automatically matches the most energy efficient operating mode to your real-time air demands to save you money. High temperatures and heavy air demands benefit from low power consumption while operating in hot gas bypass mode. Lower temperatures and/or reduced air demands engage energy saving cycling mode which turns the refrigeration compressor "on" and "off" as needed. Saving energy makes sense with MCD Series.

## DEMANDSMART COMMUNICATIONS & CONTROL CENTER



### Standard features include:

- Digital LED dew point display
- Automatic DemandSmart Cycling or Hot Gas Bypass Operation
- Self-diagnostic control with warnings and alarms
- DemandSmart energy management system
  - Optional RS485 BMS interface

GET A MATTEI AIR DRYER.

## WASTE NOT

System pressure reductions afforded by MCD Series refrigerated dryers can save you thousands of dollars per year in energy. At 10 cents per kilowatt hour, you could save over \$1,000 in energy for every 100 HP worth of air compressor you run.

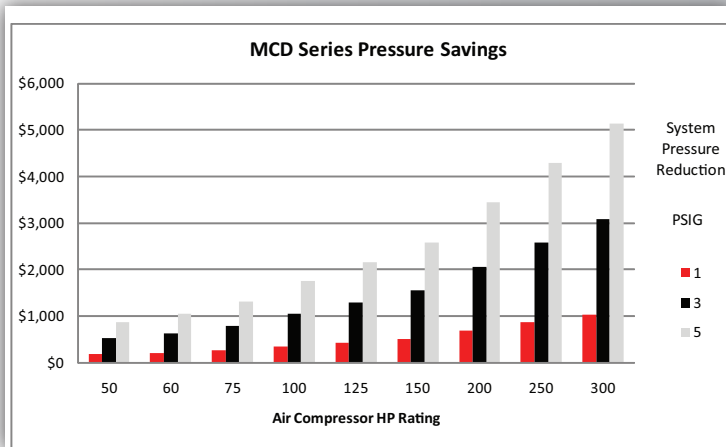
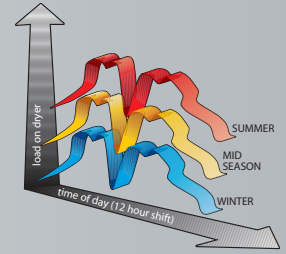


Figure 1:  
Energy Savings via Reduced Pressure Drop - Assumes 8,760 hours/year, 10 cents/kWh, EPAAct motor efficiencies.  
\*Pounds per Square Inch Differential

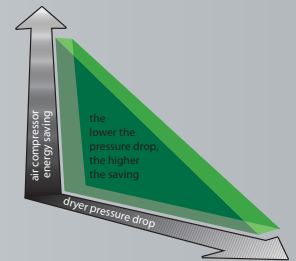
## CYCLING OPERATION

MCD Series' DemandSmart Control provides energy savings by matching the operation of the dryer to the actual demand on the system.



## LOWEST DIFFERENTIAL PRESSURE

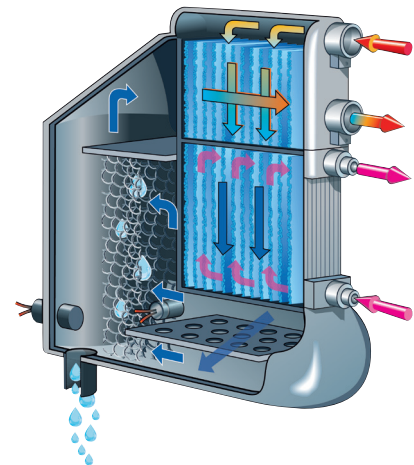
MCD Series' dryers have an average of 2.0 psid versus the industry average of 5.0 psid.



## SUPERIOR DESIGN

MCD Series dryers feature oversized condensers capable of handling inlet temperatures to 104° F and ambient temperatures to 122° F. A cleanable pre-filter protects the condenser and ensures fast, easy maintenance. Rugged aluminum broad bore heat exchangers are heavily insulated to save energy and provide super low (<2 psid) pressure drop and maximum water removal across the entire design flow range.

Of course, a dryer is only as good as its ability to remove the condensed water generated by the drying process. MCD Series employs a dual-function condensate drain system for complete peace-of-mind. Level sensors detect rising condensate levels and automatically drain the water without air loss. Should the drain malfunction, an alarm signals and the system automatically switches over and a timed solenoid drains the condensate away at regular intervals to prevent flooding your system.



**MATTEI REFRIGERATED DRYERS  
YOUR BEST VALUE FOR DRY AIR**

# TECHNICAL FEATURES

Model	Pipe Size	Nominal Flow*			Voltages**	Dimensions (inches) L x W x H	Wt. (net) lbs.
		scfm	Nm <sup>3</sup> /hr	Nm <sup>3</sup> /min			
MCD-265	2" NPT-F	265	450	7.5	230V/3Ph/60Hz & 460V/3Ph/60Hz	28 x 41 x 42	320
MCD-325	2" NPT-F	325	552	9.2	230V/3Ph/60Hz & 460V/3Ph/60Hz	28 x 41 x 42	320
MCD-400	2" NPT-F	400	680	11.3	230V/3Ph/60Hz & 460V/3Ph/60Hz	28 x 41 x 42	320
MCD-500	2" NPT-F	500	850	14.2	230V/3Ph/60Hz & 460V/3Ph/60Hz	28 x 41 x 42	342
MCD-700	3" NPT-M	700	1189	19.8	230V/3Ph/60Hz & 460V/3Ph/60Hz	32 x 46 x 52	529
MCD-800	3" NPT-M	800	1359	22.7	230V/3Ph/60Hz & 460V/3Ph/60Hz	32 x 46 x 52	529
MCD-1000	3" NPT-M	1000	1699	28.3	460V/3Ph/60Hz	32 x 46 x 52	551
MCD-1200	3" NPT-M	1200	2039	40.0	460V/3Ph/60Hz	40 x 43 x 67	816
MCD-1600	4" Flg	1600	2718	45.3	460V/3Ph/60Hz	40 x 71 x 68	1279
MCD-2000	6" Flg	2000	3398	56.6	460V/3Ph/60Hz	40 x 71 x 68	1477
MCD-2400	6" Flg	2400	4078	68.0	460V/3Ph/60Hz	40 x 71 x 68	1521
MCD-3000	6" Flg	3000	5097	85.0	460V/3Ph/60Hz	40 x 71 x 68	1609
MCD-3800	6" Flg	3800	6456	107.6	460V/3Ph/60Hz	40 x 71 x 68	1830
MCD-5000	8" Flg	5000	8495	141.6	460V/3Ph/60Hz	40 x 89 x 87	2425
MCD-6000	8" Flg	6000	10194	170.0	460V/3Ph/60Hz	40 x 89 x 87	2624

**Max. ambient temperature** 122°F **Max. pressure** 203 psi g  
**Max. inlet temperature** 140°F **Refrigerant** R407C  
**Min. ambient temperature** 41°F

### Air Flow Correction Factors

Capacity correction factors to be used when operating conditions differ from those shown above. To obtain dryer capacity at new conditions, multiply nominal capacity\* x C1 x C2 x C3.

#### Ambient Temperature (C1)

°F	90	100	110	120	122
Factor	1.05	1.00	0.94	0.79	0.71

#### Inlet Temperature (C2)

°F	90	100	110	120	130	140
Factor	1.22	1.00	0.82	0.68	0.56	0.46

#### Inlet Pressure (C3)

psi g	50	80	100	125	150	174	203
Factor	0.77	0.93	1.00	1.07	1.12	1.15	1.18

Mattei Compressors, Inc. reserves the right to change or replace the data contained in this publication, without notice.



**COMPANY**  
**WITH QUALITY MANAGEMENT**  
**SYSTEM CERTIFIED BY DNV**  
**= ISO 9001 : 2001 =**

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